(c)   from 0 to 0.3% by weight based on (a) of a compound based on an alkali and/or alkaline earth metal, and also

(d)   from 0.001 to 1% by weight based on (a) of manganese.

22.   A hydrogenation catalyst, as claimed in claim 21, obtainable by reduction with or without subsequent passivation of a magnetite.

23.   A hydrogenation catalyst, as claimed in claim 21, obtainable by precipitating precursors of said components (a), (b), (d) and optionally (c) in the presence or absence of support materials.

24.   A hydrogenation catalyst, as claimed in claim 21, obtainable by impregnating a support with a solution of said components (a), (b), (d) and optionally (c).

25.   A hydrogenation catalyst, as claimed in claim 21, obtainable by spraying said components (a), (b), (d) and optionally (c) onto a support.--

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CIEAN VERSION OF AMENDED CLAIMS

21. A hydrogenation catalyst comprising

    (a)   iron or a compound based on iron or mixtures thereof,

    (b)   from 0.001 to 0.3% by weight based on (a) of a promoter based on 2, 3, 4 or 5 elements selected from the group consisting of aluminum, silicon, zirconium, titanium and vanadium,

    (c)   from 0 to 0.3% by weight based on (a) of a compound based on an alkali and/or alkaline earth metal, and also

    (d)   from 0.001 to 1% by weight based on (a) of manganese.

22. A hydrogenation catalyst, as claimed in claim 21, obtainable by reduction with or without subsequent passivation of a magnetite.

23. A hydrogenation catalyst, as claimed in claim 21, obtainable by precipitating precursors of said components (a), (b), (d) and optionally (c) in the presence or absence of support materials.

24. A hydrogenation catalyst, as claimed in claim 21, obtainable by impregnating a support with a solution of said components (a), (b), (d) and optionally (c).

25. A hydrogenation catalyst, as claimed in claim 21, obtainable by spraying said components (a), (b), (d) and optionally (c) onto a support.